



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Hagai Aronowitz

Serial No.: 10/616,310

Filed: July 7, 2003

For: Phoneme Lattice Construction And
Its Application To Speech
Recognition And Keyword Spotting

§ Group Art Unit: 2626

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§ Examiner: Jakieda R. Jackson

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§ Atty. Dkt. No.: ITL.1941US
(P16791)

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Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REASONS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sir:

Applicant seeks pre-appeal review of the rejection of all pending claims 1, 3, 4, 7, 15, 17, 18, 24, 26, 27, 37, 39, 41-43, 51 and 53. It is respectfully submitted that the rejections to all pending claims are clearly erroneous and the burden of an appeal should be avoided.

Pending claims 1, 3-4, 7, 15, 17-18, 24, 26-27, 37, 39, 41-43, 51 and 53 stand rejected under 35 U.S.C. § 103(a) over U.S. Patent Publication No. 2003/0204399 (Wolf) in view of U.S. Patent No. 7,031,923 (Chaudhari) and in further view of U.S. Patent No. 6,224,636 (Wegmann). This rejection is clearly erroneous and the burden of appeal should be avoided.

As to independent claim 1, the cited art alone or in combination fails to teach or suggest multiple claim elements. First, the cited art, alone or in combination fails to teach the recited phoneme lattice construction, which includes determining K-best initial phoneme paths leading to a frame based on a first score of each potential phoneme path, and calculating a second score for each of the K-best phoneme paths. The art nowhere teaches or suggests determining these two such scores, the first of which is to determine K-best initial phoneme paths, and the second of which is for each of these K-best paths. As contended support, the Examiner refers to the

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Stephanie Petreas

primary reference, Wolf. However, Wolf nowhere teaches calculating two such scores, one of which is for each potential phoneme path leading to a frame, and the second of which is for each K-best phoneme path. Instead, the Examiner cites paragraphs 33-40 of Wolf. However, this nowhere teaches or suggests the subject matter. Instead, all that this teaching of Wolf is directed to is a word lattice. For the teaching of second scores for the K-best phoneme paths, the Examiner refers to paragraph 21, which simply teaches that additional classifiers can be used to determine word confidence scores. Again, this is solely with regard to word-level lattices and this certainly does not teach or suggest calculating such second scores for the K-best phoneme paths. As the secondary references also fail to teach or suggest this subject matter, the rejection is clearly erroneous.

Still further, the cited art fails to teach or suggest the recited computing of a score for a traversed path of a phoneme lattice based on at least one of a phoneme confusion matrix and multiple language models. The Examiner concedes that the primary reference Wolf fails to teach or suggest this subject matter. Instead, the Examiner relies on Chaudhari, and more specifically, FIGS. 1 and 2 of Chaudhari and column 6, line 10 – column 8, line 29. However, Chaudhari does not teach computing a score for a traversed path based on at least one of the phoneme confusion matrix and multiple language models. Instead, this portion simply teaches performing key word spotting. However, this nowhere teaches or suggests either of a phoneme confusion matrix or multiple language models.

Still further, the combination of the cited art also fails to teach or suggest the recited modifying of a score for a traversed path by allowing repetition of phonemes and further allowing flexible endpoints such that at least one of first and second arcs that end at a first frame and start at a third frame (respectively) is extended so they are directly connected at a second frame. As alleged support, the Examiner again relies on Chaudhari and again uses much of the same portions of Chaudhari described above. However, as clearly seen both in the figures of Chaudhari and the text, there is no modifying of the decoding graphs such that at least one arc is extended so that two arcs that did not directly connect now directly connect, at a different second frame. Thus, Chaudhari fails to teach this further recited subject matter of modifying of a score for a traversed path by allowing such phoneme repetition and flexible endpoints. In addition, both the primary reference Wolf and the other secondary reference Wegmann fail to remedy this defect of Chaudhari. For all these reasons, the rejection of claim 1 is clearly erroneous and

should be reversed. For at least this same reason the rejection of independent claims 15, 24 and 51 and the claims depending therefrom are also clearly erroneous and should be reversed.

Regarding independent claim 37, as described above the primary reference Wolf fails to teach or suggest the recited multiple scores, namely the first score of each potential phoneme path and calculated second scores for each of the K-best initial phoneme paths.

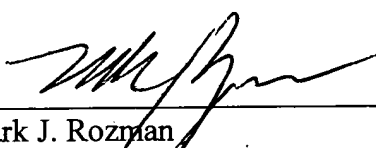
Claim 37 further recites that this second score corresponds to a global score based on both of the first score and a third score, where the third score is combined with a technique to incorporate word-level language probabilities at an end of a first phoneme of a word. The Examiner concedes that Wolf fails to teach or suggest this subject matter, and instead cites a wide portion of Chaudhari for such teaching. However, Chaudhari nowhere teaches either: the generation of these three scores; or where a given score is combined with a technique to incorporate word-level language probabilities. This is so, as Chaudhari fails to provide any teaching or suggestion with respect to three different scores, or the incorporation of word-level language probabilities. Certainly, Chaudhari nowhere teaches the further recited subject matter of incorporating such word-level language probabilities at an end of a first phoneme of the word. As the primary reference Wolf and the additional secondary reference Wegmann fail to teach or suggest this missing subject matter, the rejection of claim 37 is clearly erroneous.

In view of these remarks, the application is now in condition for allowance and the Examiner's prompt action in accordance therewith is respectfully requested. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-1504.

Respectfully submitted,

Date: _____

8/29/08



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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

ITL 1941US (P16791)

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on _____

Signature _____

Typed or printed name Stephanie Petreas

Application Number

10/616,310

Filed

July 7, 2003

First Named Inventor

Hagai Aronowitz

Art Unit

2626

Examiner

Jakieda R. Jackson

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

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applicant/inventor.

☐

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒

attorney or agent of record.

Registration number 42,117☐

attorney or agent acting under 37 CFR 1.34.

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Signature

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512-418-9944

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9/29/08

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

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